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REDACTED - FOR PUBLIC INSPECTION

September 14, 2016

VIA HAND DELIVERY AND ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

RE: Comments of ZVRS on the Interoperability FNPRM
***Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51, 03-123**

Dear Ms. Dortch:

CSDVRS, LLC d/b/a ZVRS ("ZVRS") hereby submits its comments regarding the proposed incorporation of certain technical standards into the Video Relay Service ("VRS") rules in response to the Commission's Further Notice of Proposed Rulemaking in the above-captioned proceedings.[1] In accordance with the Protective Order issued in the above-captioned proceedings on March 14, 2012,[2] attached are one copy of the comments in their original form and two redacted copies. A redacted copy will also be filed for public inspection via the Commission's Electronic Comment Filing System.

Pursuant to 47 C.F.R. §§ 0.457, 0.459, and the Protective Order, ZVRS requests confidential treatment for the company-specific, highly sensitive and proprietary commercial information in the attached comments and withhold that information from public inspection. The confidential information has been redacted from the version electronically filed with the Commission. In addition, the confidential information constitutes highly sensitive commercial information that falls within Exemption 4 of the Freedom of Information Act ("FOIA").

As this information is submitted voluntarily and absent any requirement by statute, regulation, or the Commission, ZVRS requests that, in the event that the Commission denies the

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[1] *Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51, 03-123, Further Notice of Proposed Rulemaking, DA 16-893 (CGB 2016).

[2] *Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51, 03-123, Protective Order, DA 12-404, at ¶ 4 (CGB 2012) ("Protective Order").

ZVRS request for confidentiality, the Commission return the materials without consideration of the contents therein.[3]

In support of this request and pursuant to Section 0.459(b) of the Commission's rules, ZVRS hereby states as follows:

1. Identification of the specific information for which confidential treatment is sought.

ZVRS requests confidential treatment with respect to the confidential information redacted from the version filed electronically with the Commission.

2. Identification of the circumstance giving rise to the submission.

ZVRS is providing comments in response to a Further Notice of Proposed Rulemaking in an open Commission proceeding.

3. Explanation of the degree to which the information is commercial or financial or contains a trade secret or is privileged.

The confidential information in the ZVRS comments and associated exhibits is highly sensitive commercial information specific to the finances, intellectual property, operations, and strategies of ZVRS. This information is generally safeguarded from competitors and is not made available to the public.

4. Explanation of the degree to which the information concerns a service that is subject to competition.

The confidential information involves VRS, a nationwide competitive service.

5. Explanation of how disclosure of the information could result in substantial competitive harm.

Disclosure of the redacted information could cause substantial competitive harm to ZVRS, because it would provide competitors insight into confidential financial, technical, operational, and strategy information that would not otherwise be available, which would work to ZVRS's severe competitive disadvantage.

6. Identification of any measures taken to prevent unauthorized disclosure.

ZVRS routinely treats the redacted information as highly confidential and exercises significant care to ensure that such information is not disclosed to its competitors or the public.

7. Identification of whether the information is available to the public and the extent of any previous disclosure of the information to third parties.

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[3] *See* 47 C.F.R. § 0.459(e).

ZVRS does not make the redacted information available to the public, and this information has not been previously disclosed to third parties, except where required by the Commission and the TRS Fund Administrator, each of whom protect the confidentiality of such submissions.

8. Justification of the period during which the submitting party asserts that the material should not be available for public disclosure.

ZVRS requests that the redacted information be treated as being confidential on an indefinite basis as it cannot identify a date certain on which this information could be disclosed without causing competitive harm to ZVRS.

Respectfully submitted,

/s/ Sherri Turpin
Sherri Turpin
Chief Executive Officer

Enclosure

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Structure and Practices of the Video Relay Service Program	)	CG Docket No. 10-51
	)	
	)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket. 03-123
	)	

COMMENTS OF ZVRS ON THE VRS INTEROPERABILITY FNPRM

CSDVRS, LLC d/b/a ZVRS ("ZVRS") offers these comments regarding incorporation into the Commission's rules certain interoperability and portability standards using the Session Initiation Protocol Profile (the "SIP Profile") and the Relay User Equipment Profile (the "RUE Profile"). The rules were proposed in the Further Notice of Proposed Rulemaking in the above-captioned proceeding.[1] ZVRS appreciates the commitment of the Consumer and Governmental Affairs Bureau ("Bureau") to explore and ensure interoperability and portability between and among Video Relay Service ("VRS") providers and VRS end user devices. The proposals set forth in the FNPRM take a significant step in pursuit of this goal.

ZVRS is filing two sets of comments in this proceeding. In the first set of comments, ZVRS has joined Convo, Purple and Sorenson in submitting consensus comments on the FNPRM proposals (the comments filed by ZVRS, Convo, Purple and Sorenson shall be referred to collectively herein as the "Joint Provider Comments"). ZVRS supports the arguments therein: (1) the Commission should incorporate the SIP Profile; and (2) the Commission should refrain from

[1] *Structure and Practices of the Video Relay Services Program, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51, 03-123, Further Notice of Proposed Rulemaking, DA 16-893 (CGB 2016) ("FNPRM").

mandating that all provider-distributed VRS endpoints comply with the RUE Profile at this time. The RUE Profile was never intended to apply beyond interaction with the Accessible Communications for Everyone ("ACE") software, and the ACE software is not presently available.[2]

In this second set of comments, ZVRS wishes to highlight the significant detrimental impact to ZVRS, and perhaps other providers, that would result from incorporation of the RUE Profile into the Commission's rules at this time, and bring to the Commission's attention significant interoperability and portability issues that will not be addressed by incorporation of the SIP Profile. ZVRS specifically urges the Commission to: (1) adopt its proposal to incorporate the SIP Profile into the Commission's rules, modified to require compliance within 120 days of the rule's effective date because, among other reasons, it is critical for the quality of video provided to VRS users; (2) clarify that compliance with the RUE Profile, which applies only to interactions between the ACE software and providers' networks, will not be required until at least 12-months after completion of the ACE software; and (3) initiate a proceeding aimed at adopting rules to address remaining issues that stand in the way of full interoperability and portability in the VRS program.

I. THE BUREAU SHOULD ADOPT ITS PROPOSAL TO INCORPORATE THE SIP PROFILE INTO THE TRS RULES, MODIFIED TO REQUIRE COMPLIANCE WITHIN 120 DAYS AFTER THE EFFECTIVE DATE OF THE RULE BECAUSE, AMONG OTHER REASONS, IT IS CRITICAL FOR THE QUALITY OF VIDEO PROVIDED TO VRS USERS.

ZVRS joins Convo, Purple, and Sorenson in supporting the Bureau's proposal to incorporate the SIP Profile into the Telecommunications Relay Service ("TRS") rules, modified to require compliance with the SIP Profile within 120 days after the rule's effective date, allowing providers sufficient time to complete the necessary testing to ensure full compliance.[3]

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[2] *See* Comments of Convo Communications, CSDVRS, Purple Communications, and Sorenson Communications, CG Docket Nos. 03-123, 10-51 (filed Sep. 14, 2016) ("Joint Provider Comments").

[3] *See id.* at 1, 6.

In these comments, ZVRS wishes to highlight another important benefit of incorporating the SIP Profile into the TRS rules -- it will advance the functional equivalence of VRS by improving the quality of the video streams used in VRS and point-to-point calls. Currently, VRS providers interoperate using the H.323 and H.263 protocols, which can result in lesser video quality than is available in other services. However, the SIP Profile will move VRS provider interoperability to the SIP and H.264 protocols, using more advanced video compression and vastly improving the quality of the video and the functional equivalence of the service for VRS users. In view of these benefits, ZVRS strongly urges the Bureau to adopt its proposal to incorporate the SIP Profile into the TRS rules, modified to require providers to comply with the SIP Profile within 120 days after the rule's effective date.

II. THE BUREAU SHOULD CLARIFY THAT THE RUE PROFILE, WHICH WAS NEVER INTENDED TO GOVERN ALL VRS ENDPOINTS, APPLIES ONLY TO INTERACTIONS BETWEEN THE ACE SOFTWARE AND PROVIDER NETWORKS, AND SHOULD REQUIRE COMPLIANCE WITH THE RUE PROFILE NO EARLIER THAN 12 MONTHS AFTER THE ACE SOFTWARE IS AVAILABLE TO PROVIDERS FOR TESTING.

The Bureau, in proposing to require that all VRS endpoints comply with the RUE Profile within 60 days of its incorporation, appears to have misapprehended the very limited purpose for which the RUE Profile was developed. As the Joint Provider Comments point out, the RUE Profile was "intended solely to govern the interactions between the Commission's Accessible Communications for Everyone ('ACE') software and VRS providers. And it would force providers to remove any innovative or useful features of their endpoints that are not specified in the RUE Profile and to subject their networks to lower security than they employ today."[4] ZVRS joins the other three VRS providers in emphasizing that the RUE Profile was developed *solely* to standardize the interface between providers' back-end systems and the ACE software. Moreover, as the Joint

[4] Joint Provider Comments at 1.

Provider Comments make clear, the drafting process for the RUE Profile involved an informal solicitation of feedback by the ACE software developer, FCC staff, and eventually the MITRE Corporation, and not a formalized process involving a "voluntary, consensus standard organization" in which all VRS providers were afforded a meaningful opportunity to make contributions and raise objections.[5] To require that all VRS user endpoints comply with a standard drafted under the above-described process would be procedurally improper and would have disastrous practical effects for VRS users and providers.[6]

A provider would have to take a number of extensive, burdensome, and exceedingly costly steps to bring its VRS user endpoints into compliance with the RUE Profile, which would likely require a complete reengineering of the provider's hardware, software, and platform. Obviously, this process would be prohibitively expensive, and would force smaller VRS providers to divert all available resources and investment toward the compliance effort. As the Joint Provider Comments explain:

> [T]hat undertaking would serve no purpose: the RUE Profile was not designed to govern the interactions of provider-distributed equipment with providers' back end, and the record does not reflect any current problem with these interactions. Rather, provider-distributed endpoints contain a much richer and more secure set of functionality and features than are specified by the RUE Profile, and forcing provider endpoints to adhere to that profile would require that providers remove any innovative or useful features of their endpoints that are not specified in the RUE Profile and subject their networks to lower security than they employ today.[7]

Moreover, given the prohibitive cost and indeterminate amount of time required to bring all VRS user endpoints into compliance with the RUE Profile, it is unclear how a provider would be able to fund its efforts when, as the FNPRM makes clear, no calls made over non-compliant endpoints 60

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[5] *Id.* at 5 (quoting *Structure and Practices of the Video Relay Services Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51, 03-123, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-82, at ¶ 49 (2013)).

[6] *Id.* at 5.

[7] *Id.* at 4-5.

days after the RUE Profile's incorporation into the rules would be compensable.[8] There is currently no RUE Profile-compliant endpoint, including ACE, and it is unclear how long it would take a provider to bring its endpoints into compliance. Accordingly, the proposal to incorporate the RUE Profile into the rules at this time presents the very real possibility that providers will face a period of zero compensation, with no end in sight.

Because there currently is no endpoint available that complies with the RUE Profile, VRS providers would be forced to undertake costly and lengthy development processes for nearly every feature and product they offer to bring every provider-distributed endpoint into compliance with the RUE Profile. For example, to support just one feature—real-time text ("RTT")—in a manner that complies with the RUE Profile, ZVRS estimates that it would incur **[***BEGIN CONFIDENTIAL INFORMATION***]** [redacted] **[***END CONFIDENTIAL INFORMATION***]** in development and software licensing costs to reengineer its Z70 videophones and Z5 smartphone application to operate in a compliant manner, and RTT is only one of many features that would have to be reengineered to meet the RUE Profile requirements. In all, ZVRS estimates that reengineering its endpoints to comply with the RUE Profile would require 12-15 months and **[***BEGIN CONFIDENTIAL INFORMATION***]** [redacted] **[***END CONFIDENTIAL INFORMATION***]** in development costs, all to meet a standard that was never designed to govern those endpoints.

Given the grave consequences of incorporating the RUE Profile as it exists into the TRS rules, the Bureau should decline to adopt its proposal as originally conceived. Instead, the Bureau should clarify that the RUE Profile serves only the purpose for which it was originally developed: to

[8] FNPRM at ¶ 9.

standardize interactions between the ACE software, when it is available, and VRS provider networks. If, with this clarification, the Bureau elects to incorporate the RUE Profile, ZVRS joins Convo, Purple and Sorenson in requesting that the Bureau provide at least 12 months to meet the specifications for the interface between their networks and ACE.[9] Providers have a number of steps to take to ensure compliance with the recently released specification, and there is no VRS compliant endpoint—including ACE—against which providers could test compliance.[10] As such, this 12-month—at a minimum—compliance timeframe should not commence until the final ACE software is delivered and made available to providers for testing.

If the Bureau wishes to pursue an interoperability specification for VRS endpoints, ZVRS supports that worthy goal. Neither the substance of the RUE Profile, however, nor the process by which it was developed, serves that end. A viable interoperability specification would need to be developed through the convening of a voluntary, industry consensus group engaged in a collaborative process similar to that which produced the SIP Profile. Working with the Bureau and VRS stakeholders, such a group would ensure interoperability among endpoints and networks in a way that preserves valuable features, maintains network security, furthers the functional equivalence of the service, and increases competition, innovation and consumer choice.

III. A FURTHER COMMISSION PROCEEDING IS NEEDED TO REMEDY CRITICAL INTEROPERABILITY AND PORTABILITY ISSUES THAT ARE NOT ADDRESSED BY INCORPORATION OF THE SIP PROFILE INTO THE RULES.

The ongoing absence of full interoperability and easy portability has artificially constrained competition in the VRS market and consumer choice among VRS users, to the detriment of smaller VRS providers such as ZVRS, consumers and the TRS Fund. Although incorporation of the SIP Profile is a major step toward improving interoperability between and among VRS providers, it

[9] Joint Provider Comments at 7-8.

[10] *Id.*

addresses only one of several independent, yet interrelated, issues that limit the interoperability and portability of VRS services. In order to ensure full interoperability and portability, and enable meaningful competition and consumer choice in the VRS program, ZVRS urges the Bureau to not only expeditiously incorporate the SIP Profile into the Commission's rules, but also to promptly initiate a separate proceeding to address: (1) the continuing absence of address book portability, even following incorporation of the SIP Profile into the TRS rules; and (2) the absence of a central resource to develop interoperability specifications, and test compliance against those specifications, which the various VRS stakeholders—including VRS providers, platform companies, device manufacturers, and application developers—could use.

A. Address Book Portability Is Paramount to VRS Consumer Choice and Competition.

Although the FNPRM claims that the SIP and RUE Profiles "will support a standard data interchange format for exporting and importing private data contained in a user's personal contacts list (also referred to as an address book) and the user's speed dial list between the VRS user's access technology and the access technology of other VRS providers," the incorporation of either standard would not *mandate* portability of VRS users' address books, which is needed.[11] Throughout the consensus process that produced the SIP Profile, VRS providers discussed the importance of address book portability to the competitiveness of the service, but no specification for such portability is included in the final SIP Profile proposed by the Bureau. As a result, the incorporation of the SIP Profile likely will not bring VRS users any closer to the automatic address book portability that is available to hearing telephone consumers.

As ZVRS has previously stated to the Commission, the absence of full address book portability is devastating for smaller providers seeking to make consistent inroads in the VRS

[11] FNPRM at ¶ 6.

market, and for VRS users whose consumer choice is constrained, and whose ability to communicate with friends, loved ones, employers, and others is limited, by the fact that their address books and speed dial lists may not automatically port upon a default provider change. This forces VRS users to re-key each individual contact in their phone books, a significant impediment to the willingness of VRS users to change providers or, in other words, "shop around" for better or different service. The effect is to increase switching costs for VRS users, disadvantaging them over the hearing population (whose contact lists readily transfer), and discouraging them from switching providers, all of which reduces VRS consumer choice and competition among VRS providers.

ZVRS therefore urges the Bureau to initiate a proceeding to mandate, through a consensus standards development process similar to that which produced the SIP Profile, that VRS providers develop an address book portability specification, and that they do so by a near-term date certain. There is no legitimate technical obstacle to automatic address book portability between and among VRS providers. The obvious consumer and competitive benefits that accrue when users are no longer tied to a provider for fear that their address books will not transfer significantly outweigh any burden on VRS providers to develop and comply with such a specification.

B. An Independent Interoperability Laboratory Would Serve the Important Role of Providing Efficient Investigation and Resolution of Interoperability Issues.

ZVRS urges the Bureau to consider establishing an independent interoperability laboratory to offer VRS providers, platform providers, device manufacturers, and application developers the ability to test their products and services against established interoperability specifications. Such a laboratory could be used for testing new platform releases, new feature releases, problems reported by VRS users, and new VRS user endpoints to expeditiously identify and resolve interoperability issues in a collaborative manner. Such a laboratory could also serve as a centralized resource for the

development and testing of new interoperability specifications as VRS continues to evolve and new feature sets and technologies emerge.

IV. CONCLUSION

ZVRS applauds the Bureau for its efforts to advance robust competition and consumer choice in the VRS market, enabled by full interoperability and portability between and among providers. To that end, and for the foregoing reasons, the Bureau should: (1) adopt its proposal to incorporate the SIP Profile into the Commission's rules, modified to require VRS providers to comply with the standards within 120 days after the rule's effective date, taking into consideration the significant improvements in the quality of video service for VRS users; (2) clarify that the RUE Profile applies only to interactions between the ACE software and providers' networks, and compliance is not required until at least 12-months after completion of the ACE software at the earliest; and (3) initiate a proceeding aimed at adopting rules to address critical remaining issues that are preventing full interoperability and portability in the VRS program.

ZVRS stands ready to assist the Bureau in these efforts, bringing the full benefits of competition and consumer choice to the VRS market, and looks forward to working with the Bureau in pursuit of these goals.

Respectfully submitted,

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September 14, 2016